

A new species in the diplopod genus *Amplinus* from El Salvador with comments on other members of the genus

by

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With 5 text-figures

SUMMARY

Amplinus permundus (fam. Euryuridae) is described from material collected on Monte Cristo, near Metapan, El Salvador; the species has been recorded erroneously in the literature under the name *Amplinus palicaudatus* Attems. Although the two species are similar in coloration, they differ greatly in gonopod structure. For comparison, a gonopod of the lectotype of *palicaudatus* is illustrated. Some brief notes on the status of *Amplinus intermittens* Causey are provided; this species was also described as being related to *palicaudatus* but in fact is probably not a near relative either geographically or anatomically.

Specimens of an attractive euryurid milliped, collected in El Salvador and currently under study—from the standpoint of its chemical secretions—by a research group at the University of Georgia, prove to be undescribed although the species involved has been recorded in the literature as *Amplinus palicaudatus* (Attems), an inapplicable name.

Although I have for many years been accumulating material for a revision of the large and diversified genus *Amplinus*, completion of the project seems yet to lay in the distant future, and this occasion is contrived to provide a name for this particular animal, which I recognized from the study of other material nearly 15 years ago.

The specimen designated as holotype was transmitted to me by Richard M. Duffield of the Department of Entomology, University of Georgia; I here express my thanks to Mr. Duffield for permitting its retention, to Dr. Ralph Crabill (U.S. National Museum of Natural History) and Prof. Dr. Otto Kraus (formerly Forschungs-Institut Senckenberg) for the opportunity to examine other specimens of the same species, and to Frl. Dr. Gisela Rack for access to the type material of *Pachyurus palicaudatus* (Zoologisches Museum, Hamburg).

Amplinus

Amplinus Attems, 1898, *Denkschr. Akad. Wiss. Wien*, vol. 67, p. 264.

Pseudamplinus Hoffman, 1954, *J. Wash. Acad. Sci.*, vol. 44, p. 51. New synonymy!

The typification of this genus is slightly arbitrary and technical; I give here an expanded account of the remark by Jeekel (1970: 247) that *Pachyurus kalonotus* Attems—designated as generic type by Pocock in 1909—was not a species validly included in the original usage of the name *Amplinus*.

The formal proposal of that name, as a subgenus of *Pachyurus*, appeared on page 281 of volume 68 of the Wiener *Denkschriften* which was published in 1899. In the following pages, the subgenus included the taxa *P. kalonotus*, n. sp., *P. acuticollis* n. sp., *P. abstrusus* (Karsch), *P. klugii* (Brandt), *P. ater* (Peters), and *P. ligula* [sic] Brolemann. Since no type was mentioned by ATTEMS, POCOCK later (1909: 148) selected *kalonotus* for this purpose. But as *kalonotus* belongs in a group of species confined to South America, I proposed the name *Pseudamplinus* in 1954 for the numerous Central American species characterized by a truncate hypoproct, naming *Amplinus orplinius* Chamberlin, 1922, as type.

Dr. JEEKEL examined the literature more closely than I did, however, and realized that the name *Amplinus* was first printed in the "Systematisches Verzeichniss" of ATTEMS' monograph, appearing on page 264 of the first volume, hence in 1898! Here the name was listed as a new subgenus under *Pachyurus*, including the species *abstrusus*, *klugii*, and *ater*, as well as the two new names *kalonotus* and *acuticollis* which, not being described until 1899, were thus nomina nuda and unavailable as "originally included species". At a much later date (1938, *Tierreich*, 69: 307) ATTEMS validly selected *klugii* as type of *Amplinus*, tying the name down to the Central American species-group, although I am sure this was done by accident rather than as a deliberate attempt to reverse POCOCK's action.

A sharp and unequivocal diagnosis for *Amplinus* is difficult to state at the present time, and it is not impossible that the concept of the genus will merge into that of the group presently referred to as *Pycnotropis*. The relatively long telopodite, with relatively short distal processes, still provides a somewhat subjective distinction, as does the abruptly truncate hypoproct. So far 27 names have been based upon members of this group. I know some of these to be synonymous, but have a fair number of undescribed forms at hand, so that probably the number of valid species will equal or exceed the present total.

For the purpose of validating the specific name of the new form, I give only an abbreviated diagnosis and gonopod figures; eventually all of the species of *Amplinus* will be described and figured in greater detail.

Amplinus permundus, sp. nov.

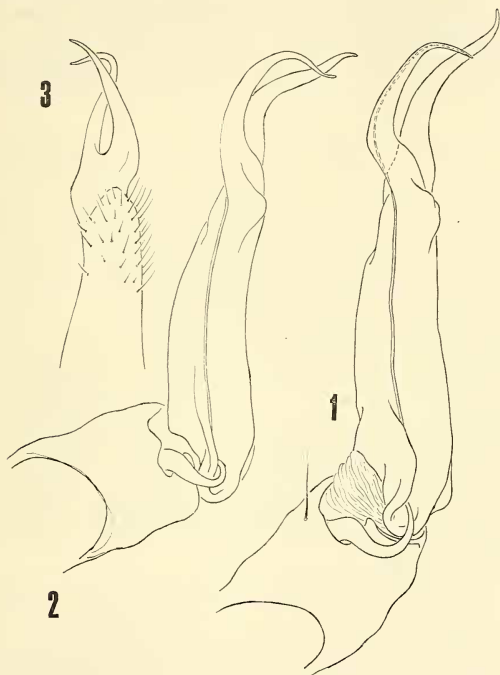
(Figs. 1-3)

Amplinus palicaudatus (nec Attems, 1901) Kraus, 1954, *Senckenberg. biol.*, vol. 35, p. 311 (records for El Salvador).

Type material: Holotype ♂ (Mus. Genève), paratype ♂♂ (Coll. Hoffman), from Hacienda Los Plaines de Montecristo, near Metapan, Dept. Santa Ana, El Salvador, May 1974, Victor Hellebuyck leg.; ♂ paratypes (U.S. Nat. Mus.) from Monte Cristo,

northeast of Metapan, May 1958, O. L. Cartwright leg.; 1 ♂ 3 ♀ paratypes (SMF 2130) from "Nebelwald des Monte Cristo, 2200 m." June 5, 1951, A. Zilch leg., also 2 ♂ 1 ♀ paratypes (SMF 2393), same locality, April 17, 1954, H. Felten leg.

Diagnosis: This species differs from other known species of *Amplinus* in color pattern (dorsally black with a broad median band of light brown; caudolateral halves of paranota bright yellow) and details of gonopod structure (distal elements slender, nearly equal in length but the solenomerite strongly curved at base and subapically; a prominent postfemoral convexity at base of solenomerite on mesal side).



Amplinus permundus, n. sp.

FIG. 1.

Left gonopod of holotype, mesal aspect, prefemoral setae omitted.

FIG. 2.

Left gonopod of specimen (SMF 2129/3) from Rio Chiquito, showing slightly different curvature of apical branches.

FIG. 3.

Distal half of telopodite of the same gonopod, ventral aspect.

Holotype: Adult male, ca. 53 mm. in length, greatest width across paranota, 6.6 mm., W/L ratio, 12.4%.

Superficially appearing blackish dorsally, with lateral third of paranota bright yellow and a broad longitudinal band of *café au lait*, edges of latter subparallel on anterior segments but becoming undulant on posterior third of body. Coloration in detail: base of each paranotum with an elongate piceus spot, slightly broader at its anterior edge, and a larger and more diffuse spot of the same color on prozona directly in front of paranotal base, extending ventrad almost to level of coxae; outer third of dorsal side of paranota of segments 1-19 bright yellow; middorsum from front edge of collum to apex of (and including entire dorsal surface of) epiproct with a broad, light brown or buff longitudinal band about four times as broad as one of the black paranotal spots, slightly narrower on the prozonites of posterior segments. Undersides of segments dilute reddish-testaceous; legs similar in color at base, becoming increasingly darker brown distally, upper sides of postfemora and tibiae piceus, of tarsi, almost black. Sides of metazona dilute reddish-brown.

Sculpture of metaterga subdued, obsolete middorsally; anterior metaterga virtually smooth medially. On midbody and posterior segments, low polygonal areas occur in three transverse series, the anteriormost of about 5-5 low but convex, areas the median series composed of about 5-5 elongated, flattened areas about half as long as length of metatergum, the posterior series still flatter and a little smaller than the first, with about 6-6 areas. All three rows of areas becoming appreciably larger and more convex on base of paranota, and there more irregular in arrangement; the enlarged tubercles correspond to the area covered by dark pigment. Paranota only moderately produced at posterior corners, the posterior edge of each vaguely denticulate.

Sides of anteriormost segments uniformly and densely tuberculate, in going posteriorly the tubercles become restricted to an anterior belt adjacent to stricture and a much broader posterior belt running from coxae up to and in many cases including underside of paranota themselves.

Sterna elevated, bicrucially impressed, narrow, glabrous; legs short and stout; tarsal claws slender, slightly curved, about 80% of tarsal length.

Gonopods of the form shown in Fig. 1, notable for the postfemoral convexity at base of solenomerite, and for the subequality of the slender distal processes; solenomerite strongly curved dorsad near base, then nearly straight to distal third which is abruptly recurved ventromesad.

Remarks: The twelve topoparatypic specimens from Monte Cristo agree closely with each other in gonopod structure and peripheral characters. Specimens in the Senckenberg collection (SMF 2129) from the Rio Chiquito, Dept. Chalatenango, El Salvador, A. Zilch leg., differ slightly in form of the apical gonopod processes (Figs. 2,3) and may eventually be shown to represent a different geographic race.

Almost certainly *Amplinus permundus* will be collected in the adjacent parts of Guatemala and Honduras.

NOTES ON OTHER SPECIES

In order to substantiate the present separation of *Amplinus permundus* from *A. palicaudatus*, to which it is superficially similar, I give here some notes and drawings of the latter species made from the type material, as well as a remark about *A. intermittens* which likewise has a dorsal band.

***Amplinus palicaudatus* (Attems)**

(Fig. 4, 5)

Pachyurus palicaudatus Attems, 1901, *Mitt. naturh. Mus. Hamb.*, vol. 18, p. 98, pl. 1, fig. 8. ♂ & ♀ syntypes, Mus. Hamburg, from La Joya, Soconusco, Chiapas, H. Kulow, leg. (Seen!)

Amplinus palicaudatus: Pocock, 1909, *Biologia Cent.-Am.*, Diplopoda, p. 150 (in part, reference to Attems' original usage only). — ATTEMS, 1938, *Tierreich*, Lief. 69, p. 312.

Pseudamplinus palicaudatus: Hoffman, 1954, *J. Wash. Acad. Sci.*, vol. 44, p. 51. — Loomis, 1966, *Bull. U.S. nat. Mus.* 266, p. 25.

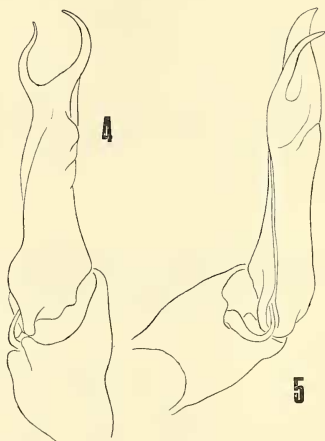
Amplinus palicaudatus (Attems)

FIG. 4.

Left gonopod of male lectotype,
ventral aspect.

FIG. 5.

The same gonopod, mesal aspect.



At the time of publication of ATTEMS' compendium in *Tierreich*, *palicaudatus* was the only member of the genus characterized by having a broad light middorsal line. In 1909 POCKOCK had referred material from the high mountains of Guatemala to this name although with a doubt; it seems probable that his specimens are at least subspecifically distinct.

In 1960, I was able to examine the syntypes of *palicaudatus* at Hamburg, and, only a few days later, the material identified as that species by KRAUS (1954) at Frankfurt. It was immediately obvious that two quite different species are involved, as can be seen by a comparison of Figs. 1-3 and 4-5 in this paper. The true *palicaudatus* appears to belong in a group containing also *A. tapachulae* Chamberlin, 1943, and *A. manni* Chamberlin, 1922. The type locality of *palicaudatus* cannot be located with accuracy on any of the maps available to me but I judge it is perhaps a *fincas* near Motozintla de Mendoza, as the Sierra de Soconusco is a component of the Sierra Madre range.

Amplinus intermittens Causey

Amplinus intermittens Causey, 1954, *Proc. biol. Soc. Wash.*, vol. 67, p. 64, figs. 21, 22, ♂ holotype (Illinois Nat. Hist. Surv.) from 15 miles south of Pichucalco, Chiapas, Mexico; 19 August 1949, W. L. Burger, leg.

This species was stated to be similar to *A. palicaudatus* in size and in structure of the gonopods. The latter were illustrated only by a lateral view of the apex of a telopodite, yet if comparison be made with the drawing (ventral aspect) in ATTEMs' original description, overall dissimilarity can be noted even despite the difference in orientation.

Assuming that the broken line on CAUSEY's Fig. 22 represents the prostatic groove (following the traditional mode of indication), the drawing is in error, as the solenomerite in *Amplinus* is always on the mesal side of the appendage. The process in question is actually the tibiotarsus, and it differs from that of *palicaudatus* in being much larger and longer, its distal half strongly curved ventromesad at nearly a right angle. I presume that comparison of *intermittens* with *palicaudatus* was engendered by the presence of middorsal light coloration in both species.

In my view, however, *intermittens* is probably not a close relative of *palicaudatus*, and falls in a different section of the genus. This might have been suspected from the difference in geographic areas, as the first occurs in the lowland Peten Province, as opposed to the montane distribution of *palicaudatus* in the Chimaltenangan Province.

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